

ABSTRACT OF THE DISCLOSURE

An automatic transmission ratio shift control system and method for a
5 powertrain having an engine and multiple-ratio gearing controlled by friction elements
actuated by hydraulic pressure, an electronic controller for establishing torque
transitions among the friction elements as the gear ratio changes, the engine speed
being controlled by an electronic throttle control. The strategy employs an electronic
throttle and closed loop engine speed control and uses fuel and air as an energy source
10 to increase engine speed during a power-off downshift. The engine speed is boosted
to a level close to the synchronous speed in conjunction with release of the off-going
friction element. The on-coming friction element is then applied as the engine speed
approaches a desired speed. The engine speed increase is timed to lead an increase in
torque converter speed.

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